

## CLAIMS:

1. An illumination system for forming a low beam in traffic applications comprising a light source and a reflecting surface formed by a multiplicity of reflector segments arranged around a central optical axis, characterized

5 in that the light source in operation emits light over an angle of at most  $180^\circ$  in a direction facing away from the intersection of the central optical axis and the reflecting surface, and

in that each of the reflector segments is parabolically-shaped and has a segment optical axis parallel to the central optical axis, while each reflector segment is positioned such that the segment optical axis substantially intersects with an edge of the light source.

2. An illumination system as claimed in claim 1, characterized in that the light source is positioned substantially below a horizontal plane including the central optical axis.

3. An illumination system as claimed in claim 1 or 2, characterized in that one edge of the light source coincides substantially with the central optical axis.

4. An illumination system as claimed in claim 1 or 2, characterized in that opposite reflector segments are positioned such that the optical axes of the reflector segments coincide with each other.

5. An illumination system as claimed in claim 1 or 2, characterized in that the number of reflector segments is dividable by four.

6. An illumination system as claimed in claim 5, characterized in that the number of reflector segments is four, eight or twelve.

7. An illumination system as claimed in claim 1 or 2, characterized in that the reflector segments reflect light according to total internal reflection.

8. An illumination system as claimed in claim 1 or 2, characterized in that the  
5 light source is a light-emitting diode.

9. An illumination system as claimed in claim 8, characterized in that the light-emitting diode in operation substantially emits white light.

10 10. An illumination system as claimed in claim 1 or 2, characterized in that the light source is an exit window of an optical fiber or a bundle of optical fibers.

11. An illumination system as claimed in claim 10, characterized in that the fiber or fibers are powered by a light engine.

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12. A road illumination system positioned beside a traffic route comprising an illumination system as claimed in claim 1 or 2.

13. A road illumination system as claimed in claim 12, characterized in that the  
20 road illumination system is provided on poles or on a crash barrier at the side of the traffic route.

14. A vehicle headlamp comprising an illumination system as claimed in claim 1 or 2.